



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

July 25, 2019

Daniel Johnson  
Vice President - General Manager  
Florence Copper, Inc.  
1575 W. Hunt Highway  
Florence, Arizona 85132

**RE: Minor Permit Modification and Demonstration of Mechanical Integrity  
UIC Permit No. R9UIC-AZ3-FY11-1; Florence Copper Project, Florence Arizona**

Dear Mr. Johnson:

I am writing to provide the enclosed minor modification to Permit No. R9UIC-AZ3-FY11-1 and address demonstrations of mechanical integrity, pursuant to Part II.E.3 of the permit. The minor modification and additional required demonstrations of mechanical integrity were conditions of injection authorization, as described in my letter dated December 14, 2018. The minor permit modification is issued in accordance with UIC regulations at 40 CFR §144.41, and is effective immediately. EPA will post this minor permit modification on the Region 9 UIC Permits website. We will notify you of its posting by email with a citation to the website location.

As described in the December 14, 2018 letter, a replacement monitoring well (M57R-O) shall serve as a water quality monitoring well for the permit to replace M57-O. Florence Copper, Inc. (FCI) submitted a notice of completion of construction (EPA Form 7520-9) to EPA for replacement well M57R-O for EPA's review and approval. EPA is evaluating the completion of the replacement well to determine compliance with construction and mechanical integrity requirements of the permit. FCI needs to address completion report comments that EPA provided on July 11, 2019 and report on retesting for Part I mechanical integrity for EPA's evaluation.

To satisfy the monitoring program required for multi-level sampling wells to demonstrate Part II mechanical integrity pursuant to Part II.E.3.ii.A, FCI shall conduct temperature logging in multi-level sampling wells at least once per quarter during the life of the wells. We included this mechanical integrity monitoring in the minor modification.

Temperature Logging run in early February 2019 for wells R-08 and R-09 confirmed that both wells have external mechanical integrity. Pursuant to the Permit condition II.E.3.b, EPA may require that Mechanical Integrity Tests (MIT) be conducted at any time during the permitted life of any well authorized by the permit. Additional temperature logging, per procedures approved in the prior test, shall be run in R-08 and R-09 recovery wells within 60 days from receipt of this letter.

Pursuant to permit condition Part II.E.3, all PTF wells and monitoring wells were required to demonstrate Part I and II mechanical integrity. Based on EPA's evaluation of temperature logging results submitted on April 22, 2019, all PTF wells and monitoring wells have demonstrated Part II mechanical integrity.

The monitoring wells, M55-UBF, M56-LBF, M61-LBF, and MW-01-LBF failed the Part I mechanical integrity prior to commencement of injection operations. However, as noted in our December 2018 letter, these wells are not open to the injection zone and they will not be exposed to injection zone pressures from the bedrock oxide unit within the wellbore. Therefore, failing the Part I test for these monitoring wells does not result in an increased risk of fluid movement into an Underground Source of Drinking Water (USDW). The demonstration of external mechanical integrity by temperature logging confirms the absence of significant fluid movement into the USDW through vertical channels adjacent to the well bore.

FCI attempted to conduct a Radioactive Tracer Survey (RTS) on all injection wells, pursuant to Permit Part II.E.3.ii.B. The RTS was not successfully run because of technical issues that FCI could not resolve as described in your April 22, 2019 letter regarding mechanical integrity demonstrations. However, in compliance with the permit, the temperature logging run on the injection wells satisfies the required demonstration that the injection fluids are confined to the proper zone, pursuant to Part II.E.3.ii.B.

If you have any questions or wish to discuss further, please contact me at (415) 972-3971 or Nancy Rumrill of my staff at (415) 972-3293.

Sincerely,

A handwritten signature in blue ink, appearing to read "David Albright", with a stylized flourish at the end.

for  
David Albright  
Manager, Groundwater Protection Section

Enclosure

cc: Maribeth Greenslade, ADEQ